

NOTE

Scaphytopius angustatus (Osborn) (Homoptera: Cicadellidae), a Leafhopper
Characteristic of Pitch Pine-Scrub Oak Barrens

Scaphytopius angustatus (Osborn), a widely distributed Nearctic leafhopper of the deltocephaline tribe Scaphytopiini, is the only known conifer-feeding member of the genus (Hepner, 1947. University of Kansas Science Bulletin 31: 413–541). Adults are about 4 to 5 mm long, pale greenish fulvous or greenish yellow, with subhyaline forewings; the distinctive male genitalia should be examined for positive identification (Hepner 1947; Berine, 1952. Canadian Entomologist 84: 311–313; 1956. Canadian Entomologist 88(Supplement 2): 1–180). This pine specialist has been recorded from jack pine (*Pinus banksiana* Lamb.), red pine (*P. resinosa* Aiton), and pitch pine (*P. rigida* Mill.) (Ball, 1932. Canadian Entomologist 64: 251–255; Hepner 1947). Ecological information otherwise is lacking for this infrequently collected species.

During studies of mirids (Wheeler, 1991. Journal of the New York Entomological Society 99: 405–440) and fulgoroids (Wheeler and Wilson, 1996. Proceedings of the Entomological Society of Washington 98: 100–108) inhabiting pitch pine-scrub oak barrens, I found *S. angustatus* to be a characteristic insect of northeastern pine barrens—that is, occurring consistently in, but not restricted to, that community type. It is one of several leafhopper species found on pitch pine in pine barrens. Individuals of the leafhopper were beaten from branches of pines, mainly pitch pine, as described by Wheeler (1991) for mirids occurring on scrub oak (*Quercus ilicifolia* Wangenh.). Voucher specimens have been deposited in the collections of Cornell University, Ithaca, N.Y.; National Museum of Natural History, Washington, D.C.; and the Pennsylvania Department of Agriculture, Harrisburg.

Once considered a “distinctly northern species” (DeLong, 1923, pp. 56–163 *In* Britton, W.E., ed., The Hemiptera or Sucking Insects of Connecticut. Connecticut Geological and Natural History Survey Bulletin 34), *S. angustatus* is now known as far south as Georgia. Other records include Maine, Massachusetts, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Ontario, Pennsylvania, South Carolina, Virginia, and Wisconsin (Metcalf, 1967, pp. 2,075–2,695 *In* General Catalogue of the Homoptera, Fascicle VI, Part 10, USDA ARS, Washington, D.C.). Metcalf (1967) also listed Connecticut, but in a treatment of that state’s leafhopper fauna, *S. angustatus* was only predicted to be found there (DeLong 1923).

During 1991–1995, I collected *S. angustatus* at 21 sites, ranging from extensive pitch pine-scrub oak barrens, such as Waterboro in Maine, Ossipee in New Hampshire, New York’s Shawangunk Mountains, and the New Jersey Pine Barrens, to degraded, remnant pine barrens. Seven collections involved scattered pitch pines in communities other than pine barrens. Collections were made from pitch pine except in the Gadway Barrens, Clinton Co., N.Y., where jack pine was the host. New state records are Connecticut, Rhode Island, and Vermont. Numbers in parentheses refer to adults unless otherwise stated.

CONNECTICUT: Hartford Co., Shaker Pines, Enfield, 28 Sept. 1991 (3). MAINE: York Co., Biddeford, 14 Aug. 1993 (2); Kennebunk Plains, 13 Aug. 1993 (1); Waterboro Barrens Preserve, 8 Aug. 1995 (1, 15 nymphs). MASSACHUSETTS: Franklin Co., Montague sand plains, 14 Sept. 1991 (1), 15 Aug. 1993 (3, 1 nymph). NEW

HAMPSHIRE: Carroll Co., Ossipee Pine Barrens, 7 Aug. 1995 (6 nymphs); Hillsborough Co., Amherst (1) & Nashua (1), 6 Aug. 1995; Brookline, 14 Sept. 1991 (1). NEW JERSEY: Burlington Co., NW. of Warren Grove, 11 Aug. 1991 (2). NEW YORK: Albany Co., remnant barrens near Pine Bush Preserve, 22 Aug. 1993 (1); Clinton Co., NE. of Ausable Chasm, 30 Aug. 1992 (1); Gadway Barrens, S. of Cannon Corners, 21 Aug. 1993 (1); West Chazy Barrens, 29 Aug. 1992 (2); Jefferson Co., Plessis, 16 Aug. 1992 (>20 adults and nymphs); Saratoga Co., 3 mi. S. of South Glens Falls, 22 Aug. 1992 (1); Ulster Co., Mohonk Preserve near New Paltz, 29 Sept. 1991 (2), 21 Aug. 1992 (3), 20 Aug. 1993 (1). PENNSYLVANIA: Luzerne Co., Humboldt Industrial Park SW. of Hazleton, 22 Aug. 1993 (1); Schuylkill Co., near Frackville, 6 Oct. 1991 (1). RHODE ISLAND: Providence Co., Slatersville, 19 Sept. 1992 (2); Washington Co., near Arcadia Management Area, 1 Sept. 1991 (2). VERMONT: Chittenden Co., Camp Johnson, Colchester, 28 Aug. 1992 (1).

Nymphs were seldom observed, and only the mostly bright green fifth instars were detected, earlier instars perhaps having been overlooked in the beating net. Because nymphs were not observed before August and no adults were taken during extensive spring and early-summer sampling of pitch pine, *S. angustatus* likely overwinters in the egg stage.

Adults of this late-season, apparently univoltine leafhopper were observed in pine barrens from early August until early October. In the northern part of its range (OH, NH, NY, WI), *S. angustatus* has been reported only from early August (Sanders and DeLong, 1917. *Annals of the Entomologi-*

cal Society of America 10: 79–95) to mid-October (Osborn and Knull, 1947. *Ohio Journal of Science* 46: 329–336), even in New Hampshire, where Lowry (1933. *Ohio Journal of Science* 33: 59–80) collected leafhoppers nearly throughout the season, beginning in May. In the southern part of the range, adults have been collected in Georgia from June to August (Fattig, 1955. *Emory University Museum Bulletin* 11: 1–68).

In northeastern pine barrens, I observed *S. angustatus* mainly on seedling and sapling pitch pines and the regrowth from stumps of cut-over trees. Certain other conifer-feeding leafhoppers are associated with seedlings, including those of pitch pine (DeLong, 1926. *Ohio Journal of Science* 26: 69–72). About a third of the collections of *S. angustatus* were from mature pitch pines, where they often were beaten from bushy growth on the basal whorl of branches, some of which touched the ground. This growth habit, which might be a response to light reflected from the sand, typifies pitch pine in pine barrens (Kelley, 1927. *Botanical Gazette* 83: 89–93).

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